

CLAIMS

I Claim:

1. A method of monitoring the manufacturing status of a machine comprising the steps of:

assigning a machine identifier to a machine comprised of one or more components, each one or more components to be incorporated into the machine at one or more production stations, wherein each one or more production stations is assigned a production station identifier;

inputting the machine identifier into at least one memory of a first computer;

inputting a unit control identifier for each one or more components wherein the unit control identifier is linked to the production station identifier where the unit control identifier is input;

inputting defect information for each one or more component into the memory at an inspecting station, wherein each inspecting station is assigned an inspecting station identifier, so that the defect information and the unit control identifier are linked to the inspecting station where the defect information is input.

linking the stored unit control identifier and the stored machine identifier;

and

outputting defect information which includes at least one of the machine identifier and the unit control identifier, wherein the machine history in manufacturing is traced later.

2. The method of claim 1, wherein the machine identifier and the unit control identifier are input by scanning bar codes assigned to the machine and the component.

3. The method of Claim 1, wherein the defect information includes at least one defect phenomenon.

4. The method of claim 3, further comprising the steps of:

inputting a business function identifier into the memory, wherein the business function identifier identifies the party responsible for resolving the at least one defect phenomena.

5. The method of claim 4, further comprising the steps of

inputting a resolving method for the at least one defect phenomena into the memory.

6. The method of claim 5, wherein the resolving method is selected from a list of pre-stored resolving methods.

7. The method of claim 5, wherein the selected resolving method is stored in the memory for later use.

8. The method of claim 5, further comprising the steps of:

inputting a new unit control identifier corresponding to a new component, wherein the new component replaces another component is replaced with said defective part corresponding to a replaced component.

9. The method of claim 3, wherein said output is displayed on a second computer that is connected to the first computer through a network.
10. The method of claim 3, further comprising the step(s) of:
inputting the time when said defect phenomena occurred.
11. The method of claim 10, wherein said output is accessed in real time.
12. The method of claim 10, wherein the information in the memory can be retrieved by selecting at least one of the machine identifier, the unit control identifier, the production station identifier and the inspection station identifier.
13. The method of claim 10, wherein the information in said memory can be sorted by using at least one of the machine number, the unit control identifier, the production station identifier and the inspection station identifier.
14. The method of claim 1, wherein the output is printed out daily.
15. The method of claim 3, further comprising the step of:
calculating the number of detected defects.
16. The method of claim 3, further comprising the step(s) of:
selecting designating stations among said responsible business functions to send message through said network to said selected responsible business functions.
17. The method of claim 17, further comprising the step of:
selecting at least one of said business functions to see messages that are sent from said selected stations.

18. The method of claim 3, wherein said outputting process comprises the steps of;

counting the number of times of said defect and the number of times of manufactured component;

calculating statistics which relate to said defect automatically; and

outputting said calculated statistics.

19. The method of claim 19, wherein the defect information includes at least one of defect rates and rates without defect.

20. The method of claim 3, further comprising the steps of:

inputting the at least one defect phenomena for each machine into the memory at a quality assurance station, wherein said quality assurance station has a quality assurance identifier, and wherein the quality assurance station is linked to the machine number.

21. The method of claim 4 further comprising the steps of:

inputting a second machine identifier into the memory, wherein the second machine identifier is assigned to each machine and is different from the first machine identifier;

counting an input quantity at a production station based on the stored first machine identifier and an output quantity from a second production station based on the stored second machine identifier; and

generating a work-in-process number from at least the input quantity and the output quantity.

22. The method of tracing a machine history in manufacturing by using computers, wherein said machine includes plural units, comprising the steps of:

- assigning each component a unit control identifier;
- incorporating each component at a production station, wherein the production station is assigned a production station identifier;
- inputting the unit control identifier into at least one memory of a second computer which is connected to the first computers through a network by using bar code at each of said assembling stations;
- inspecting each component at an inspection station before the assembled units are assembled as said machine; and
- inputting the result of the inspection into said memory at each inspecting station such that said inputted result is linked to said unit control identifier, wherein said inputted information is said memory is traced in real time by using said unit control number.

23. The method of claim 21, further comprising the steps of:

- inputting an production station identifier at each production station before each of the components is assembled, wherein said inputted information in memory is traced in real time by using said unit control identifier and the production station identifier.

24. The method of claim 22, further comprising the steps of:

assigning machine identifier to each machine that is going to be
manufactured at plural production stations;

inputting said machine identifier into at least one memories of said
computer; and

linking said machine identifier and said unit control identifier, wherein said
inputted information in said memory is traced in real time by using said unit
control identifier, said production station identifier and said machine identifier.

25. A method of claim 23, further comprising the steps of:

inspecting said machine after said units are assembled; and

inputting the result of inspection, wherein said inputted information in said
memories is traced in real time by using said unit control number, and assembling
station, said machine number.